

CLAIMS

What is claimed is:

1. A switch for switching time division multiplexed (TDM) data and packet data from input ports to output ports, comprising:
5 a plurality of input ports receiving data, wherein each data comprises either TDM data or packet data;

a plurality of output ports transmitting switched data; and

a shared memory coupling said input ports to said output ports, said shared memory sequentially receiving the data from said input ports, said shared memory switching a
10 sequentially received data from a respective input port to a respective output port, wherein switching of packet data by said shared memory has no latency or jitter effect on switching of TDM data by said shared memory.

2. A switch as claimed in claim 1, wherein each data is received by an input port as a time slot in a frame.

3. A switch as claimed in claim 1, wherein said shared memory comprises a TDM data memory portion and a packet data memory portion.

4. A switch as claimed in claim 1, wherein said shared memory treats the input ports as logical input ports.

5. A switch as claimed in claim 1, wherein said shared memory places sequentially received packet data in a queue for a respective output port.

6. A switch as claimed in claim 1, wherein the data are received by said input ports and transmitted by said output ports as data exchange units.

Sub A switch as claimed in claim 1, further comprising:

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a time slot interchange controller coupled to said shared memory selecting addresses in said shared memory to store TDM data, said time slot interchange controller selecting an address of said shared memory for a TDM data based on a time slot of a frame in which the said switch received the TDM data; and

a packet switch controller coupled to said shared memory selecting addresses in said shared memory to store packet data, said packet switch controller selecting an address of shared memory for a packet data based on routing data embedded in the packet data and based on the input port which received the packet data.

10 8. A switch as claimed in claim 1, wherein the switching of a data from a respective input port to a respective output port is controlled by a stored switch configuration.

15 9. A switch as claimed in claim 1, further comprising:
an input data router sequentially routing data from said input ports to said shared memory; and

an output data router sequentially routing data from said shared memory to said output ports.

20 10. A method for switching time division multiplexed (TDM) data and packet data from input ports to output ports, comprising the steps of:

switching a TDM data from an input port to an output port, comprising the steps of:

receiving a TDM data at the input port;

determining the output port to route the TDM data;

storing the TDM data in a preselected area of a shared memory;

25 reading the TDM data from the preselected area of said shared memory; and

transmitting the TDM data from the output port; and

switching a packet data from an input port to an output port, comprising the steps of:

receiving a packet data at the input port;

determining the output port to route the packet data;

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storing the packet data in said shared memory;
reading the packet data from said shared memory; and
transmitting the packet data from the output port;
wherein switching packet data has no latency or jitter effect on switching TDM data.

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11. The method of claim 10, wherein the preselected area of said shared memory for storing the TDM data is based on a time slot in a frame in which the TDM data was received by the input port.

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12. The method of claim 10, wherein the output port, to which the TDM data is routed, is determined based on a time slot in a frame in which the TDM data was received by the input port, and wherein the output port to which the packet data is routed is determined based on routing data embedded in the packet data and based on the input port which received the packet data.

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13. A switch for switching time division multiplexed (TDM) data and packet data from input ports to output ports, comprising:

means for switching a TDM data from an input port to an output port, comprising:

means for receiving a TDM data at the input port;

means for determining the output port to route the TDM data;

means for storing the TDM data in a preselected area of a shared memory;

means for reading the TDM data from the preselected area of said shared memory;

and

means for transmitting the TDM data from the output port; and

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means for switching a packet data from an input port to an output port, comprising:

means for receiving a packet data at the input port;

means for determining the output port to route the packet data;

means for storing the packet data in said shared memory;

means for reading the packet data from said shared memory; and



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